

5 contacting said biological target molecule with a drug having an anchoring
6 moiety specific for said chemically reactive group; and
7 identifying said drug having said anchoring moiety.

45 38. The method in accordance with claim 37, wherein said drug having an anchoring moiety is part of a library of compounds.

46 39. The method in accordance with claim 37, wherein said drug is a member of the group consisting of a peptide, a peptoid, a random bio-oligomer, a benzodiazepine, a hydantoin, a dipeptide, a vinylogous polypeptide, a nonpeptidal peptidomimetic, an oligocarbamate, a peptidyl phosphonate, a nucleic acid, an antibody, an isoprenoid, a thiazolidinone, a metathiazanone, a pyrrolidine, a morpholino compound, and a cyclopentane carboxylic acid.

47 40. The method in accordance with claim 37, wherein said biological target molecule is on a protein.

48 41. The method in accordance with claim 40, wherein said protein is a member selected from the group consisting of a β -adrenergic receptor, a calcium channel, a sodium channel, a potassium channel, membrane transporters and membrane receptors.

49 42. The method in accordance with claim 37, wherein said anchoring moiety is a member selected from the group consisting of a sulfhydryl-reactive group, an alkylating agent and an acylating agent.

50 43. The method in accordance with claim 42, wherein said anchoring moiety is a member selected from the group consisting of a methanethiosulfonyl group, a dithiopyridyl group, a reactive disulfide, an α -halo ketone, an α -diazo ketone, an activated ester, a pentafluorophenyl ester, and an anhydride.

51 44. The method in accordance with claim 37, wherein said compound has the formula:

A-L-D

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4 wherein: A is a drug that is specific for said chemically reactive group;

5 L is a linking group; and

6 D is a drug.

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52 45. A method for identifying a drug that binds at a preselected target site on
2 a biological molecule, said method comprising:

3 (a) providing a biological target molecule that comprises a chemically
4 reactive group;

5 b) reacting said biological target molecule with a compound, said
6 compound comprising (1) A, wherein A is an anchoring moiety and (2) L, wherein L is a
7 linking group, wherein said anchoring moiety reacts with said chemically reactive group of
8 said target molecule to form a covalent bond, thereby resulting in said anchoring moiety being
9 attached to said target molecule through a covalent bond;

10 (c) combining said target molecule with one or more members of a library
11 of drugs that are capable of covalently bonding to said linking group, wherein at least one
12 member of said library forms a covalent bond with said linking group to form a target molecule
13 conjugated to A-L-D, wherein D is said at least one member of said library forming said
14 covalent bond; and

15 (d) identifying said drug, D, that forms a covalent bond with said
16 chemically reactive group.

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53 46. The method in accordance with claim 45, wherein said drug is a member
2 of the group consisting of a peptide, a peptoid, a random bio-oligomer, a benzodiazepine, a
3 hydantoin, a dipeptide, a vinylogous polypeptide, a nonpeptidal peptidomimetic, an
4 oligocarbamate, a peptidyl phosphonate, a nucleic acid, an antibody, an isoprenoid, a
5 thiazolidinone, a metathiazanone, a pyrrolidine, a morpholino compound, and a cyclopentane
6 carboxylic acid.

54 47. The method in accordance with claim 45, wherein said biological target
2 molecule is on a protein.

~~61 54.~~ The method in accordance with claim 52, wherein D is a member of a combinatorial library of compounds.

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62 ~~55~~. The method in accordance with claim 52, wherein said first drug is a member of the group consisting of a peptide, a peptoid, a random bio-oligomer, a benzodiazepine, a hydantoin, a dipeptide, a vinylogous polypeptide, a nonpeptidal peptidomimetic, an oligocarbamate, a peptidyl phosphonate, a nucleic acid, an antibody, an isoprenoid, a thiazolidinone, a metathiazanone, a pyrrolidine, a morpholino compound, cyclopentane carboxylic acid, phenylalkylamines and dihydropyridines.

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63 ~~56~~. The method in accordance with claim 52, wherein said biological target molecule is on a protein.

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64 ~~57~~. The method in accordance with claim 56, wherein said protein is a member selected from the group consisting of a β -adrenergic receptor, a calcium channel, a sodium channel, a potassium channel, membrane transporters and membrane receptors.

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65 ~~58~~. The method in accordance with claim 52, wherein said anchoring moiety is a member selected from the group consisting of a sulfhydryl-reactive group, an alkylating agent and an acylating agent.

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66 ~~59~~. The method in accordance with claim 58, wherein said anchoring moiety is a member selected from the group consisting of a methanethiosulfonyl group, a dithiopyridyl group, a reactive disulfide, an α -halo ketone, an α -diazo ketone, an activated ester, a pentafluorophenyl ester, and an anhydride.

REMARKS

Claims 1-59 are pending in this application. Claims 37-59 are newly added.
Early examination on the merits is respectfully requested.

SUPPORT FOR NEW CLAIMS

Support for new claims 37-59 is found throughout the specification as originally filed. More particularly, support for claims 37, 45 and 52 is found, *inter alia*, on page 16, lines 1-14; and in claim 30, page 51.